IN THE CLAIMS

1. (Original) A novel process for the commercial production of polyunsaturated fatty acid and micronutrients rich zero-trans shortening by chemical interesterification to produce nutritionally and fictionally superior shortening without hydrogenation. The process involves blending of palm oat and palm stearin with rice bran oil, interesterification in presence of sodium methoxide catalyst, inactivation of the catalyst, washing with hot water, deoderization of the resultant product, and finally passing the interesterified product through margarine crystallizer under controlled conditions followed by packing and tempering.

2. (Original) A process as claimed in claim 1, wherein the required homogeneity is attained by heating the palm stearin or palm oil to 60.80°C, then adding rice bran oil in the proper proportion to the melted palm stearin or palm oil, and charging the blend to the reactor vessel and heating to a temperature of 60-110°C under vacuum (60-80mmHg) with stirring.

3. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-2~~, wherein 0.2-0.9% sodium methoxide catalyst is added with vigorous stirring for 5-60 mints under the above conditions of temperature and vacuum.

4. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-3~~, wherein sodium methoxide catalyst is inactivated by adding calculated amount of citric acid (0.2-1.2%) and aqueous layer is separated and again washed with hot water at 60-90°C till neutral.

5. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-4~~, wherein the resultant interesterifed product is deodorized at a temperature of 140-180°C and under a vacuum of 1-5 mbar for 1-4h.

6. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-5~~, wherein the resultant deodorized interesterifled product at 50-80°C is fed into the margarine crystallizer with a feed rate of 8-15 kg/hr.

7. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-6~~, wherein the refrigerant temperature of the margarine crystallizer is adjusted to 5-25°C.

8. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-7~~, wherein the interesterified fat fed into the margarine crystallizer is cooled to a temperature of 20-35°C.

9. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-8~~, wherein the backpressure in the scraped surface heat exchanger (muator) is adjusted to 5-10 bar.

10. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-9~~, wherein the interesterified fat is crystallized in the mutator at a mutator speed of 150-250 rpm.

11. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-10~~, wherein the product coming out of the mutator is subjected to beating in the pinworker at a speed of 50-150 rpm.

12. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-11~~, wherein the product collected from the margarine crystallizer under specified temperature of 20-35°C and tubbed.

13. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-12~~, wherein the filled product is tempered at 25-35°C for 3-10 days to get a plastic shortening with a requisite

granular structure, which fall within the limits of specificational requirements.

14. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-13~~, wherein tocols enriched (900-1000ppm) zero-traps shortening is obtained.

15. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-14~~, wherein phytosterols enriched (0.5.-1%) zero-trans shortening is obtained.

16. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-15~~, wherein oryzanol enriched (0.5-0.8%) zero-trans shortening is obtained.

17. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-16~~, wherein the interesterified zero-trans shortening fall under the category of all-purpose shortenings with good plasticity and maximum β' polymorphic form (72%).

18. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-17~~, wherein the interesterified zero-trans all-purpose shortening has good oxidative stability.

19. (Currently amended) A process as claimed in ~~claims~~ claim 1 ~~-18~~, wherein the polyunsaturated fatty acid and micronutrients rich zero-traps all-purpose shortening meets the specificational. requirements such as slip melting point, FFA, moisture, unsaponifiable matter and iodine value prescribed for shortening.

20. (Original A novel process for the production of zero-traps polyunsaturated fatty acid and micronutrients rich all-purpose shortenings with characteristics as in Table 1, 2, 3 and 4 by interesterification substantially as herein described with reference to the example cited.